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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/654,177	09/01/2000	Ahmad Jalali	PA000376	6254
23696	7590	06/15/2004	EXAMINER	
Qualcomm Incorporated Patents Department 5775 Morehouse Drive San Diego, CA 92121-1714			CORRIELUS, JEAN B	
			ART UNIT	PAPER NUMBER
			2631	9
DATE MAILED: 06/15/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/654,177

Applicant(s)

JALALI ET AL.

Examiner

Jean B Corielus

Art Unit

2631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 4/28/04.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) 1-8 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 17 and 18 is/are allowed.
- 6) ☒ Claim(s) 9-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 9 and 13 -15 are rejected under 35 U.S.C. 103(a) as anticipated by Offord et al. (U.S. Patent No. 5,901,075 of record) in view of Gurcan US patent No 4,985,902.

As to claim 9 and 13-15 Offord teaches an apparatus (and a method) that comprises a plurality of tap weights in a FIR filter (equalizer) whose coefficients are associated with the data signals received during assigned time slots (see Abstract, col. 2, lines 33-41, col. 3, line 66-col.4, line 5), a summing node (summer) 18 coupled to the plurality of the tap weights to sum the tap outputs (Fig. 2 and 3, and col. 1, lines 37-48) and a processor (memory) 38 to process the indicated tap weights coefficient which get updated during the assigned time slots(col.3, lines 54-65 and col.5, lines 26-31) as claimed in claims 9, 13 and 14. However, Offord does not explicitly teach that the number of taps being equal to a total number of symbols. However, such limitation does not involve any inventive step. For instance, Gurcan teaches such limitation of the claim see col. 3, line 68-col. 4, line 2. Given that fact, it would have been obvious to one skill in the art to incorporate such a teaching in Offord in order to improve the performance of the equalizer as taught by Gurcan see col. 3, line 65.

Offord further discusses generating carrier to interference ratio (C/I) at the output of the summing node (summer) 18 whose estimate is given in equation 7.419 (col.4, lines 26-37) as claimed in claim 10 and 15.

2. Claims 10, 11, 12 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Offord et al. (U.S. Patent No. 5,901,075 of record) in view of Gurcan and further in view of Chin Hwa Lee et al (Signals, Systems and Computers 1994, Vol. 1, pp 89-93).

As per claims 10, 11 and 16, as applied to claims 9 and 13 above, Offord and Gurcan teach the invention substantially as claimed but does not explicitly teach the further limitation of estimating a C/I for each time slot.

Lee, however, discusses generating variable data rate based on the carrier to noise ratio determined for each time slot (carrier to interference ratio) during as assigned time slot in wireless technology to increase communication capacity (page 91, col.2). It would have been obvious to an ordinary person skilled in the art to apply Lee's teaching of generating data rate based on C/I estimate calculated by the processor 38 in Offord and Gurcan in order to produce the required tap weight coefficients for the FIR filter in order to save power consumption by the mobile station, and to obtain higher

Art Unit: 2631

data rate, a balanced link budget between mobile and base station during transmission and maintain link quality of the transmission at the time the invention was made.

As per claim 12, it would have been obvious to one skill in the art to incorporate a lookup table for correlating C/I estimates and data rates so as to increase system performance.

Allowable Subject Matter

3. Claims 17-18 are allowed.

Response to Arguments

4. Applicant's arguments filed 4/28/04 have been fully considered but they are not persuasive. It is alleged that the Lee does not teach the generation of a first data rate decision for a first capacity estimate and a second data rate decision for a second capacity estimate. However, it is noted that Lee teaches at page 91, col. 2, lines 14-25, that a signal strength is determined for each time slot and a data rate is selected accordingly. Hence, Lee teaches generation of a first data rate decision for a first capacity estimate and a second data rate decision for a second capacity estimate see page 91, col. 2, lines 14-25.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

Art Unit: 2631

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jean B. Corrielus whose telephone number is (703) 305-4023. The examiner can normally be reached on Monday-Thursday from 7:00 A.M. to 5:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour, can be reached on (703) 306-3034.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-3800.


Jean B. Corrielus

Primary Examiner

TC-2600 6/10/04